Meteorological and Navigation Systems Equipment Maintenance Element

- 1. Mission Statement. Meteorological and Navigation Systems (METNAV) technicians maintain non-radar Air Traffic Control and Landing Systems (ATCALS) and airfield meteorological equipment to support the safe take-off, landing, and navigation of all active duty military, Air National Guard, Reserve, Department of Defense, and civilian aircraft that are stationed at or transit the base or airspace controlled by the base.
- **2. Applicability.** This element applies to peacetime operations only and to all units having this function except the following:
- 2.1. Combat Communications units.
- 2.1. Air National Guard and Air Force Reserve units.
- 2.3. Centralized Repair Activities (CRAs).
- 2.4. OL-E, 89 CG, Thurmont City MD (Camp David).
- 2.5. 435 CG, Rhein Main AB GE and OL-E, 435 CG, Katterbach GE (Traveling Maintenance Teams).
- **3.** Core Composition. The following factors were considered to determine the core manpower required for METNAV Maintenance:
- 3.1. To support flying activities, METNAV equipment needs to be provided for aircraft to take off, land, and navigate within the airspace controlled by the base. The level of service is based on single shift maintenance at 40-hours per week plus on call maintenance for unscheduled outages. Restoral priorities will be established and followed when personnel respond to multiple outages.
- 3.2. Core Composition Equipment.

EQUIPMENT	QTY.
FRN-45 TACAN	1
GRN-29 ILS	2
ML-658 Digital Barometer	1
GMQ-32 Transmissometer	2
GMQ-34 Ceilometer	2
GMQ-20 Wind Set	2
FMQ-8 Temperature Set	1

Core Manpower Required: 3

Core Range: 2 - 10

No. of Pages: 16

OPR: HQ AFMEA/PLDM OCR: AFCOMMET Distribution: F AFMS 38AA 12 July 1994 2

- 3.3. Programming Factor. None.
- 3.4. To have a viable maintenance function, a minimum manpower level must be maintained. Minimum manning is determined as follows:
- 3.4.1. As two people are required to perform preventive maintenance, minimum manning of Y=2 is required for work centers that maintain any of the following:
- 3.4.1.1. An Instrument Landing System.
- 3.4.1.2. A Tactical Air Navigation System.
- 3.4.1.3. A Fixed Wind System.
- 3.4.1.4. A Fixed Temperature Set.
- 3.4.2. Due to flight safety considerations, minimum manning of Y=3 is authorized at those locations which are responsible for maintaining multiple Navigation-Aids (NAVAIDS) equipment systems. NAVAIDS systems include ILSs, TACANs, and VORs.

4. Standard Data:

- 4.1. Classification. Type III
- 4.2. Approval Date. 1 March 1993
- 4.3. Man-Hour Data Source. The Operational Audit method was used. Historical records, directed requirement, and technical estimate techniques were used for frequency determination. Good operator timing, and technical estimates were used for per accomplishment time determination.
- 4.4. Manpower Equation:

$$Yc = -1.580 + 67.49 (X1) + 1.321 (X2)$$

- 4.5. Workload Factors:
- 4.5.1. Title:
- 4.5.1.1. X1. An Equipment Equivalent.
- 4.5.1.2. X2. Distance.
- 4.5.2. Definition:
- 4.5.2.1. X1. The summation of equipment equivalent values computed for each METNAV work center based on the amount and type of fixed electronic equipment systems maintained. An equipment equivalent workload factor is based on the relationship of various equipment systems relative to a baseline value of one.

Note: For this determinant, the AN/GRN-29 Instrument Landing System (ILS) was used as the baseline. The equipment equivalent values for the remaining systems are based on the relationship of each system to a single AN/GRN-29.

NOTE: Equipment equivalent values should only be assigned to fixed equipment systems. Do not assign values to tactical systems or minor meteorological equipment.

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4.5.2.2. X2. The summation of the round trip distance from the work center to each equipment system that has an equipment equivalent value assigned.

4.5.3 Source:

- 4.5.3.1. X1. Work Center Master Equipment ID Listing, physical inventory, and Section 1 of the Application Worksheet at Attachment 5. The total number of each type of equipment system accounted for in the physical inventory should be documented in the "Quantity Assigned" column on the application worksheet.
- 4.5.3.2. X2. Obtain from work center personnel using the procedures in Part 2 of the Instructions for Completing Application Worksheet.

5. Application Instructions:

- 5.1. The Application Worksheet at Attachment 5 will be used to compute the manpower requirements. Note: Read specific instructions that accompany the worksheet before attempting to fill in and compute the data.
- 5.2. During application, if a new fixed electronic equipment system has been installed that is not listed on the application worksheet, use the following approach:
- 5.2.1. If the new system replaces a system that is on the equipment list, develop an interim equipment equivalent value for use until the AFMS is updated to reflect the new equipment. Take the following steps to determine what the interim value should be:
- 5.2.1.1. Step 1. Determine the monthly man-hours required to perform preventive maintenance, repairs, and flight checks. (Use Operational Audit techniques if the work center has sufficient historical data/experience to estimate the monthly man-hours. If not, contact the functional OPR at the parent MAJCOM and obtain their estimate of the monthly man-hours.)
- 5.2.1.2. Step 2. Divide the monthly man-hours obtained in Step 1 by 36.01 (the monthly man-hours for an AN/GRN-29) to determine the interim equipment equivalent value.
- 5.2.1.3. Step 3. Include this value in the summation process used to determine the work center's overall equipment equivalent total.
- 5.2.2. If the new system does not replace a system that is on the equipment list, identify the workload as a variance and document the man-hours required to maintain the system on an AF Form 1068, Work Center Analysis Record.
- 5.3. Apply the appropriate Man-hour Availability Factor (MAF) and overload factor.
- 5.4. Use current rounding rules to determine whole manpower requirements.
- 5.5. The application of the standard identifies "required grades." The "authorized grades" are allocated based on USAF Career Progression Group (CPG) constraints. Refer to the Standard Manpower Table for the skill and grade distribution of the computed requirement.
- 5.6. If a request is made to change an AFSC, compliance with AFR 26-1 is mandatory concerning the Unsatisfactory Rotation Index (URI) and Critical Military Skills (CMS) programs. Positions having AFSCs appearing on the URI list should be authorized as military in the CONUS and civilian overseas unless the overseas positions are military essential according to AFR 26-1. AFSCs on the CMS list should be military due to wartime requirements.

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5.7. The determinant is valid through the man-hour range of 88.55 through 1429.41. Extrapolation limits represent the upper and lower man-hour values that bind the applicability range. These limits represent the maximum amount an equation can be extended. Variance man-hours may exceed the extrapolation limits when added to the man-hours from the basic manpower equation. The MAJCOM M&O will determine the skill and grade requirements for authorizations not shown on the manpower table.

- **6. Statement of Conditions.** This function has environmental conditions that impact the work center's ability to perform work.
- 6.1. Climatic Conditions:
- 6.1.1. Temperature. Extreme hot or cold temperatures may cause an increase in maintenance time.
- 6.1.2. Snow and Ice. Snow and ice cause certain tasks to be done more frequently.
- 6.1.3. Precipitation. Rain and humidity impact the frequency of corrosion control performed on the equipment.
- 6.1.4. Severe Weather. High winds, lightning and thunderstorms may cause an increase in maintenance.
- 6.2. Physical Layout of Facilities. The work center itself is normally not located with the equipment it services. Travel time is required to accomplish work. Climatic conditions affect travel time.
- 6.3. Physical Condition of Facilities. The age of the equipment shelters and the equipment itself directly impact the frequency of the unscheduled maintenance categories of work.

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- 5 Atch
- 1. Element Description
- 2. Standard Manpower Table
- 3. Variances
- 4. Process Analysis Summary
- 5. Application Worksheet

AFMS 38AA Attachment 1 12 July 1994 A1-1

ELEMENT DESCRIPTION

Meteorological and Navigation Systems Equipment Maintenance Element

- 1. EQUIPMENT PREVENTIVE MAINTENANCE. Reviews schedules, performs preventive maintenance, assists in quality control inspections, and updates equipment status.
- 2. EQUIPMENT REPAIR. Receives and verifies notification, notifies appropriate agencies, repairs equipment, repairs corrosion damage, and updates equipment status.
- 3. REPAIR CYCLE ASSET MAINTENANCE. Performs maintenance on Due In From Maintenance (DIFM) assets, repairs DIFM assets, performs Not Repairable This Station (NRTS) actions, and performs functional check of forward supply point assets.
- 4. SPECIAL MAINTENANCE. Performs equipment modifications, performs Time Compliance Technical Order (TCTO) tasks, and assists visiting maintenance and Air Traffic Control and Landing Systems (ATCALS) teams.
- 5. REPLACEMENT PART ACQUISITION. Orders expendable parts and repair cycle assets.
- 6. AUXILIARY MAINTENANCE. Performs minor installations and removals, assists cable maintenance, airfield lighting, and base civil engineers, operates backup power systems, and monitors auxiliary power source tests.
- 7. EQUIPMENT EVALUATIONS AND CERTIFICATIONS. Notifies appropriate agencies, prepares materials, operates equipment for certification, retrieves material for evaluation and certification, returns material after evaluation and certification, and updates equipment status for equipment evaluation and certification.
- 8. PERFORMS TRAVEL. Performs travel during normal duty hours and in response to non-duty hour equipment malfunctions.

Indirect work involves those tasks that are not readily identifiable with the work center's specific product or service. The major categories of standard indirect work are Supervision, Administration, Meetings, Training, Supply, and Cleanup. See AFMS 00AA for the standard indirect description. Core man-hours for indirect work are computed in with equipment processes.

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	STAI	NDARD MA	NPOW	ER TA	BLE						
WORK CENTER/FAC METNAV Equipment Maintenance/38AA			APPLICABILITY MAN-HOUR RANGE 88.55 - 1429.41								
AIR FORCE SPECIALTY TITLE	AFSC	GRADE		MANPOWER REQUIREMENT							
METNAV Sys Craftsman	2E172	MSG							1	1	1
METNAV Sys Craftsman	2E172	TSG	1	1	1	1	1	1	1	1	1
METNAV Sys Journeyman	2E152	SSG	1	1	1	1	2	2	2	2	2
METNAV Sys Journeyman	2E152	SRA		1	1	2	2	2	2	3	3
METNAV Sys Apprentice	2E132	A1C			1	1	1	2	2	2	3
TOTAL			2	3	4	5	6	7	8	9	10
AIR FORCE SPECIALTY TITLE	AFSC	GRADE	MANPOWER REQUIREMENT								
TOTAL				_							

AF Form 1113, JUN 91 (COMPUTER GENERATED). PREVIOUS EDITION IS OBSOLETE.

AFMS 38AA Attachment 3 12 July 1994 A3-1

VARIANCES

Meteorological and Navigation Systems Equipment Maintenance Element

- 1. Title. Positive Mission Variance for Maintenance of Weather Radar.
- 1.1. Definition. At some locations, the METNAV Maintenance Work Center is responsible for maintaining the AN/FPS-77 or AN/FPQ-21 Weather Radar.
- 1.2. Impact. Variable.
- 1.3. Workload Factors (WLFs):
- 1.3.1. X1. An Equipment Equivalent.
- 1.3.2. X2. A Thunderstorm Day.
- 1.3.3. X3. Distance.
- 1.4. WLF Definition:
- 1.4.1. X1. The relationship of AN/FPS-77 workload to AN/FPQ-21 workload. The value for an AN/FPS-77 is 1.09 and the value for an FPQ-21 is .91.
- 1.4.2. X2. The annual mean number of days when a thunderstorm occurs at the station where the radar is located. Obtain this number from the Station Climatic Summary maintained by the local weather unit.
- 1.4.3. X3. The round trip distance from the work center to the radar transmitter. Obtain from work center personnel.
- 1.5. Applicability. All locations where METNAV Maintenance work centers are tasked to maintain weather radars.
- 2. Title. Positive Environmental Variance for Snow and Ice Removal.
- 2.1. Definition. Workload associated with removing snow from METNAV equipment.
- 2.2. Impact. Fixed + 8.38 Monthly Man-hours.
- 2.3. Applicability. All locations whose mean annual snowfall, as reported in the Station Climatic Summary, is 33 inches or greater.
- 3. Title. Positive Mission Variance for Off-base Travel.
- 3.1. Definition. Some locations must travel to off base locations to perform maintenance or Quality Assurance Evaluator duties.
- 3.2. Impact. Variable.

 $Yc = D \times F \times 4.66 / V$

Where: D = One Way Distance in miles.

F = Frequency (Trips per month)

V = Vehicle Speed: 23 MPH for PACAF - 34 MPH for all others

3.3. Applicability. All locations required to perform off base support.

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- 4. Title. Positive Mission Variance for Quick Wartime Restoral of ATCALS Equipment and Services (QWRATES).
- 4.1. Definition. Some locations in Europe and the Pacific are required to maintain a capability to set up TRN-41 mobile TACANs in the event that the primary system becomes disabled.
- 4.2. Impact. Fixed +22.06 monthly man-hours.
- 4.3. Applicability. Overseas locations assigned QWRATES assets.
- 5. Title. Positive Mission Variance for Inter Island Travel.
- 5.1. Definition. The METNAV work center at Hickam AFB is required to travel to another island to perform maintenance.
- 5.2. Impact. Fixed +25.13 monthly man-hours.
- 5.3. Applicability. Hickam AFB.
- 6. Title. Positive Technology Variance for Digital Ionospheric Sounder System.
- 6.1. Definition. Performs maintenance on the FMQ-12 Digital Ionospheric Sounder System.
- 6.2. Impact. Fixed +18.55 monthly man-hours.
- 6.3. Applicability. Those METNAV functions responsible for maintaining the FMQ-12.
- 7. Title. Positive Mission Variance for Polarimeter Maintenance.
- 7.1. Definition. Maintains a polarimeter.
- 7.2. Impact. Fixed +22.28 monthly man-hours.
- 7.3. Applicability. Osan AB.
- 8. Title. Positive Environmental Variance for Corrosion Control.
- 8.1. Definition. METNAV work centers in highly corrosive areas perform additional corrosion control on equipment.
- 8.2. Impact. Fixed +12.84 monthly man-hours at Lajes.

Fixed +14.84 monthly man-hours at Pope AFB.

Fixed +20.84 monthly man-hours at Ramstein AB.

Fixed +19.36 monthly man-hours at Andersen AB.

- 8.3. Applicability. Lajes, Pope, Ramstein and Andersen AB.
- 9. Title. Positive Environmental Variance for Severe Winds.
- 9.1 Definition. Severe winds at Lajes require frequent replacement and repair of METNAV subsystems.
- 9.2. Impact. Fixed +58.6 monthly man-hours.

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- 9.3. Applicability. Lajes AFB.
- 10. Title. Positive Mission Variance for Additional Vehicles.
- 10.1. Definition. The METNAV work center at Eglin AFB must perform operator maintenance on the additional vehicles they require to travel to Duke field.
- 10.2. Impact. +17.32 monthly man-hours.
- 10.3. Applicability. Eglin AFB.
- 11. Title. Positive Mission Variance for Maintenance of NEXRAD PUP.
- 11.1. Definition. Responsible for maintaining the Primary User Processor of the Next Generation Weather Radar (NEXRAD).
- 11.2. Impact. Variable +18 monthly man-hours per PUP maintained.

NOTE: This value includes travel time to on-base locations. If the PUP is located off-base, use Variance number 3 to determine the travel man-hours.

- 11.3. Applicability. All locations where the work center is responsible for maintaining PUPs and there is no ATC Radar Maintenance Work Center.
- 12. Title. Positive Mission Variance for Space Shuttle Support.
- 12.1. Definition. The METNAV work center at Edwards AFB has significantly increased workload due to on-site manning requirements during shuttle missions.
- 12.2. Impact. Fixed +160.7 monthly man-hours.
- 12.3. Applicability. Edwards AFB.

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Meteorological and Navigation Systems Equipment Maintenance Element

PROCESS ANALYSIS SUMMARY

Due to the variance of preventive maintenance and repair frequencies from location to location, Projected Workload Factor Frequencies for this function were not developed.

	FRACTIONAL MAN-HOURS	MANPOWER
1. EQUIPMENT PREVENTIVE MAINTENANCE	156.78	.98
2. EQUIPMENT REPAIR	124.97	.78
3. REPAIR CYCLE ASSET MAINTENANCE	9.98	.06
4. SPECIAL MAINTENANCE	20.12	.13
5. REPLACEMENT PART ACQUISITION	10.56	.07
6. AUXILIARY MAINTENANCE	13.90	.09
7. EQUIPMENT EVALUATIONS AND CERTIFICATIONS	8.02	.05
8. PERFORMS TRAVEL	73.23	.46
Total Fractional Manpower		2.62

AFMS 38AA Attachment 5 12 July 1994 A5-1

Meteorological and Navigation Systems Equipment Maintenance Element

INSTRUCTIONS FOR COMPLETING APPLICATION WORKSHEET

- 1. PART 1. Equipment Equivalent Calculations:
- 1.1. Only assign equipment equivalent values to the equipment listed on the application worksheet.
- 1.2. Quantity Assigned. Enter the quantity of each equipment end item for which you have maintenance responsibility. Count all applicable equipment maintained by the unit. Include those equipment systems at off-base locations. Use the following definitions to determine what constitutes an equipment system:
- 1.2.1. VORTAC Count as one TACAN and one VOR.
- 1.2.2. ILS Count one for each complete system. For example; one GRN-27 consists of one localizer, one glideslope, one far field monitor, and one remote status indicator.
- 1.2.3. Weather Equipment may be categorized as single, dual, or multiple instrumentation. In these cases, base the quantity on the number of transmitter/projector and receiver combinations irrespective of the number of indicators. For example, a dually instrumented GMQ-32 usually consists of two projector and receiver combinations feeding a single indicator this would be counted as two systems. A dually instrumented GMQ-20 usually consists of two transmitters feeding several indicators this would also be counted as two systems.
- 1.2.4. Count the entire RVR-400 system as one.
- 1.2.5. Count TMQ-15s only if in a fixed mode of operation (continuous usage).
- 1.3. Obtain individual equipment equivalent totals by multiplying the quantity assigned by the appropriate equipment equivalent. The sum of the equivalent totals will be entered as X1 (total equipment equivalent value) in the standard equation.
- 2. PART 2. Distance Calculations:
- 2.1. Do not count off-base travel in this section. A variance has been developed for off-base travel (refer to the instructions in 4b below).
- 2.2. Measure the distance from the work center to the equipment maintained using the route normally traveled. Use vehicle odometer and record the one-way distance to the nearest tenth of a mile. Use the work center as the point of reference for each measurement. For ILS distance; include the distances from the work center to the localizer, work center to the glideslope, and work center to the far field monitor. For GMQ-13 and GMQ-32 count only the distance from the work center to the projector. For TMQ-11, FMQ-8, and GMQ-20 count the distance from the work center to the transmitter. When more than one of a particular equipment system is maintained, sum the distances to each set. For example, for a dual GMQ-13 measure from the work center to one projector and enter that value under set #1. Then measure and record the distance to the other projector under set #2. Count the distance to the control tower only if you maintain equipment there, and count it only once even if you have more than one piece of equipment there. After obtaining the total distance for each equipment system, sum horizontally to obtain the total distance for each equipment system, and sum vertically to obtain the total distance.
- 2.3. Double the total distance value to account for round trip travel and enter as X2 (distance) in the standard equation.
- 2.4. Off-base Travel is defined as travel required to perform Quality Assurance Evaluator duties or to maintain equipment which is located 10 or more miles from the work center and is located on another installation/base, civilian airport, or auxiliary field. For example:

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Base A maintains weather equipment on an Army post located 15 miles away from the work center. This travel will be treated as off-base since it is located more than 10 miles from the work center and is located on another installation. Base B maintains weather equipment on an Air Force base located 6 miles away. This will be counted as on-base travel since it is less than 10 miles away. Base C maintains a URN-5 that is in a corn field 15 miles from the work center. This will be counted as on-base travel since it belongs to the maintaining unit, supports the unit's mission, and is not located on another installation. Base D maintains Wind Equipment for Runway Supervisory Units at a civilian airport 150 miles away. This will be counted as off base travel.

- 3. PART 3. Man-hour Computation:
- 3.1. Substitute the equipment equivalent total from part one for X1, in the standard equation.
- 3.2. Substitute the total round trip distance from part two for X2 in the standard equation.
- 3.3. Add the "a" value from the standard equation to determine the total computed man-hours from the basic standard.
- 4. PART 4. Variances:
- 4.1. Refer to attachment 3 to determine which variances apply and specific WLF information.
- 4.2. If off-base travel applies to more than one installation/base, compute the man-hours separately for each location and add the results to obtain the total off-base travel variance man-hours.
- 4.3. Sum the man-hours from all applicable variances and enter the results in 4l on the application worksheet. Note: At off- base locations where multiple equipment systems are maintained, determine the "off-base distance" by measuring the distance to that equipment system at the off-base location which is furthest from the work center.
- 5. PART 5. Self-explanatory.

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APPLICATION WORKSHEET

UNIT:	LOCATION:	PREPARED:							
BY:									
(NAME)	(RA)	NK)		(DSN)					
1. EQUIPMENT EQUIVALENT CALCULATIONS:									
NOTE: See definitions to determine quantity assigned.									
TYPE OF EQUIPMENT		ANTITY IGNED	EQUIPMENT VALUE	TOTAL					
TACAN:									
GRN-19/20		X	1.7543 =						
FRN-45		_ X	0.7809 =						
VOR:									
FRN-37		X	1.5573 =						
FRN-44		X	0.2454 =						
ILS:									
GRN-27		X	2.4314 =						
GRN-29		X	1.0000 =						
MARKER BEACON:									
GRN-28		X	0.3146 =						
GRN-32		X	0.3146 =						
LOW FREQ BEACON:									
URN-5		X	0.5182 =						
TRANSMISSOMETER:									
GMQ-32		X	0.2715 =						
RVR COMPUTER:									
FMN-1		_ X	0.1490 =						
RVR-400		X	0.4982 =						

CEILOMETER:						
GMQ-34		X	0.2936	=		
WIND SET:						
GMQ-20		X	0.2637	=		
RSU WINDS		X	0 4 4 4 =	=		
TMQ-15 (FIXED)		X		=		
TEMPERATURE SET:						
TMO 11		v	0.4052			
TMQ-11		X	0.4053			
FMQ-8		X	0.1931	=		
DBASI:						
ML-658		X	0.0405	=		
EQUIPMENT EQUIVALENT TOTAL:				=		
2. DISTANCE CALCULATIONS:						
NOTE: Do not include travel to those sit	es defined	as "off	base".			
	SET #1	l	SET #2		SET#3	TOTAL
TACAN		_		_		
VOR		_		_		
LOCALIZER		_		-		
GLIDESLOPE		_		-		
FAR FIELD MONITOR		_		-		
MARKER BEACON		_		-		
URN-5		_		-		
GMQ-32		_		-		
RVR COMPUTER CEILOMETER		_		-		
GMQ-20		_		-		
RSU WINDS		_		-		
TMQ-15 (FIXED)		_		-		
TEMPERATURE SET		_		-		
ML-658		_		-		
CONTROL TOWER						
TOTAL DISTANCE:						
TOTAL ROUND TRIP DISTANCE (Total	l Distance x	(2) =				
3. MAN-HOUR COMPUTATION (Yc = -	1.580 + 67.4	19X1 + 1	1.321X2):			
a. X1 = An Equipment Equivalent.						
Equipment Equivalent Total =		X	67.49	=		

Attachment 5

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b. X2 = Distance.						
Total Round Trip Distance =		X	1.321	=		
c. Plus "a" Value from basic Man	n-hour Equation =	= (-1.580)				
d. Total Computed Man-hours (3	3a + 3b + 3c =	<u> </u>	-			
4. VARIANCES:						
a. Weather Radar (Yc= -8.599 + 57	7.90X1 + .4213X	2 + 4.255X	3):			
(1) X1 = Equipment Equivalent	t Value.					
FPS-77 = 1.09 x 57.90 FPQ-21 = .91 x 57.90	=					
(2) X2 = Thunderstorm Days.						
Annual Thunderstorm Days	S	x	.4213	=		
(3) X3 = Distance to Radar Tra	nsmitter.					
Round Trip Distance		X	4.255	=		
(4) Enter "a" Value from Addit	ive Equation =	(-8.599)				
(5) Total Computed Man-hours	s [4a(1) + 4a(2) +	4a(3) + 4a	(4)] =			
b. Snow and Ice Removal.						
Yc = 8.38 (Constant Man-hour	s)		=			
c. Off-base Travel.						
$Yc = D \times F \times 4.66$						
V						
D = One-way Distance in Miles. F = Monthly Frequency. V = Vehicle Speed.						
23 MPH for PACAF locations. 34 MPH for all other locations.						
ONE-WAY LOCATION DISTAN	MON' NCE	ΓHLY FREQU	ENCY			
	x x x		- - -	x 4.66 / V x 4.66 / V x 4.66 / V	= = =	

Total =

d. QWRATES.			
Yc = 22.06 (Constant Man-hours)		=	
e. Inter-island Travel at Hickam AFB.			
Yc = 25.13 (Constant Man-hours)		=	
f. Digital Ionospheric Sounder System.			
Yc = 18.55 (Constant Man-hours)		=	
g. Polarimeter Maintenance at Osan AB.			
Yc = 22.28 (Constant Man-hours)		=	
h. Corrosion Control at Andersen, Lajes, Pope, or Ramstein AB.	=		-
i. Severe Winds at Lajes AB.			
Yc = 58.6 (Constant Man-hours)		=	
j. Additional Vehicles at Eglin AFB.			
Yc = 17.32 (Constant Man-hours)		=	
k. NEXRAD PUP Maintenance			
No. PUPs maintained x 18	=		-
l. Total Exception Man-hours (add a. thru k.)	=		-
5. MANPOWER CALCULATION: (To be completed by servicing manpower office.)			
a. Add Man-hours from 3d and 4l		=	
b. Divide Total Earned Man-hours by the appropriate MAF and overload factor		=	
c. Use current rounding rules to determine whole manpower requirements	=		